natural resources," he says. But much of the trade is black, illegal. "A villager in Madagascar for whom a dollar is a day's salary can take a radiated tortoise, resplendent in its starburst shell, and sell it at a profit of five dollars to a local middleman. That tortoise will be smuggled in a suitcase or false-bottomed crate to a distribution point in Asia, perhaps Singapore or Bangkok, and then onward, to be bought by a collector in Europe, North America or Japan for five thousand dollars."

Such enormous sums only increase the pressure on these species and increasing rarity only adds to their value. "Turtles and tortoises have become a global trade item. In the case of the rarest and most beautiful species — and therefore the most valuable — the black market profits to be made may in some cases rival those from the global trade in narcotics."

Stanford warns of the speed and extent of loss of these animals in the face of such onslaughts. And even where they are not being directly targeted, habitat loss is adding additional pressure. "There are many countries in Southeast Asia that have for millennia been centres of biodiversity which are now emptied of their entire tortoise and turtle fauna. Vietnam is almost devoid of its many species of native tortoises and freshwater turtles — they've all gone to markets in China. Laos, Cambodia, Myanmar and Indonesia are close behind," Stanford says. Conservationists refer to China as the "black hole" of wildlife conservation for its ongoing appetite for the animals of the entire Asian continent. A nation and an industry hungry to supply an ever more affluent society of tortoise eaters and pet-keepers will not be denied.

People often worry about the legacy, environmental and otherwise, they will leave their children and grandchildren. Stanford makes clear that several tortoise species are unlikely to last that long and will be driven to extinction in a shockingly few number of years. But he points at a few glimmers of hope. Thais, like other Asians, have traditionally eaten tortoises, but there is some encouragement from the Kaeng Krachan National Park in the south-west of the country. This park is one of the largest in southeast Asia and is almost pristine. It is home to the largest population of tigers within a reserve anywhere, plus elephants and every other large Asian mammal species. But it is also a stronghold of the Asian forest tortoise, the largest Asian tortoise, which lives in the mountainous wet forests from eastern India through to Indonesia.

Middle-class Thais have embraced ecotourism on the western model, and visit the park to camp during the cool winter season, where sight of a tortoise, or any other species, is all that is sought.

"Like the dodo, tortoises are priceless works of art. People of the next millennium will look at the few remaining examples and be saddened the people of our century failed to value them enough to save them," Stanford writes. "Unless we act now, the last remnants of a once great-flourishing of uniquely strange and wonderful creatures will disappear from the Earth in short order."

The Last Tortoise
Craig B. Stanford
The Belknap Press of Harvard University Press.
ISBN: 978-0-674-04992-5

Tiger in the bank

Biodiversity 2010: Is it time to give up on the tiger? **Michael Gross** reports.

According to the traditional Chinese calendar, we are now in the year of the tiger, which comes around every 12 years. This occasion has stimulated renewed efforts to improve conservation of the endangered species, of which only a few thousand individuals survive in the wild.

Chris Packham, a British television natural history presenter, has now upset sensibilities surrounding the iconic species by saying in an interview with the *Radio Times* that the conservation effort is failing. "Tiger conservation is a multimillion-pound business that isn't working," Packham told the magazine. "If it were in the FTSE 100, it would have gone bankrupt."

Habitat loss is partially to blame for the dramatic decline in tiger populations and the loss of three sub-species within the twentieth century. Another big part of the problem is the continuing demand for tiger products, mostly from China. It's not only the striped skin the buyers are after. Tiger bones are also a valuable ingredient in traditional Chinese medicine. Scarcity and demand have driven the prices up so high that poaching has become attractive not only for impoverished local people but even well-organised and equipped criminal gangs.

Conservationists are trying to redress the economic balance, as Packham explained: "One of the ways we've sought to protect tigers is to give them a dollar value through ecotourism and try to channel that money into local communities, but now I hear that some of the Indian authorities are trying to reduce this, which is worrying." While conservation agencies were trying to do the right thing, Packham concluded, "the results are disastrous."

Packham, who previously went on record saying the giant panda should be left to its fate, clearly enjoys controversy, but he's not alone in finding fault with tiger conservation efforts. Back in March, Willem Wijnstekers, secretary general of the UN Convention on International Trade in Endangered Species (CITES), declared: "If we use tiger numbers as a performance indicator, then we must admit that we have failed miserably and that we are continuing to fail."

Meanwhile, the WWF insists that continuing to try to save the great cats remains an important priority. A WWF spokesman told the press: "WWF is deeply committed to tiger conservation because we believe the work we are doing has a genuine impact. Losses in many of the areas where we have been working are less severe than in unprotected areas — a clear sign that the situation is far from hopeless, provided we act now."

To mark the year of the tiger, the organisation has launched a "double or nothing" campaign aiming to double the number of tigers in the wild by 2022 (the next year of the tiger). However, the organisation also admits that there is a real possibility that the species may disappear in the wild before its next appearance on the Chinese calendar.

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